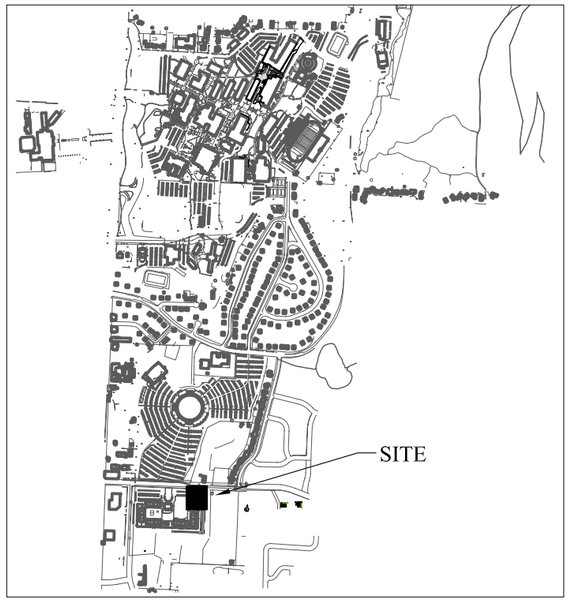
WEBER STATE UNIVERSITY

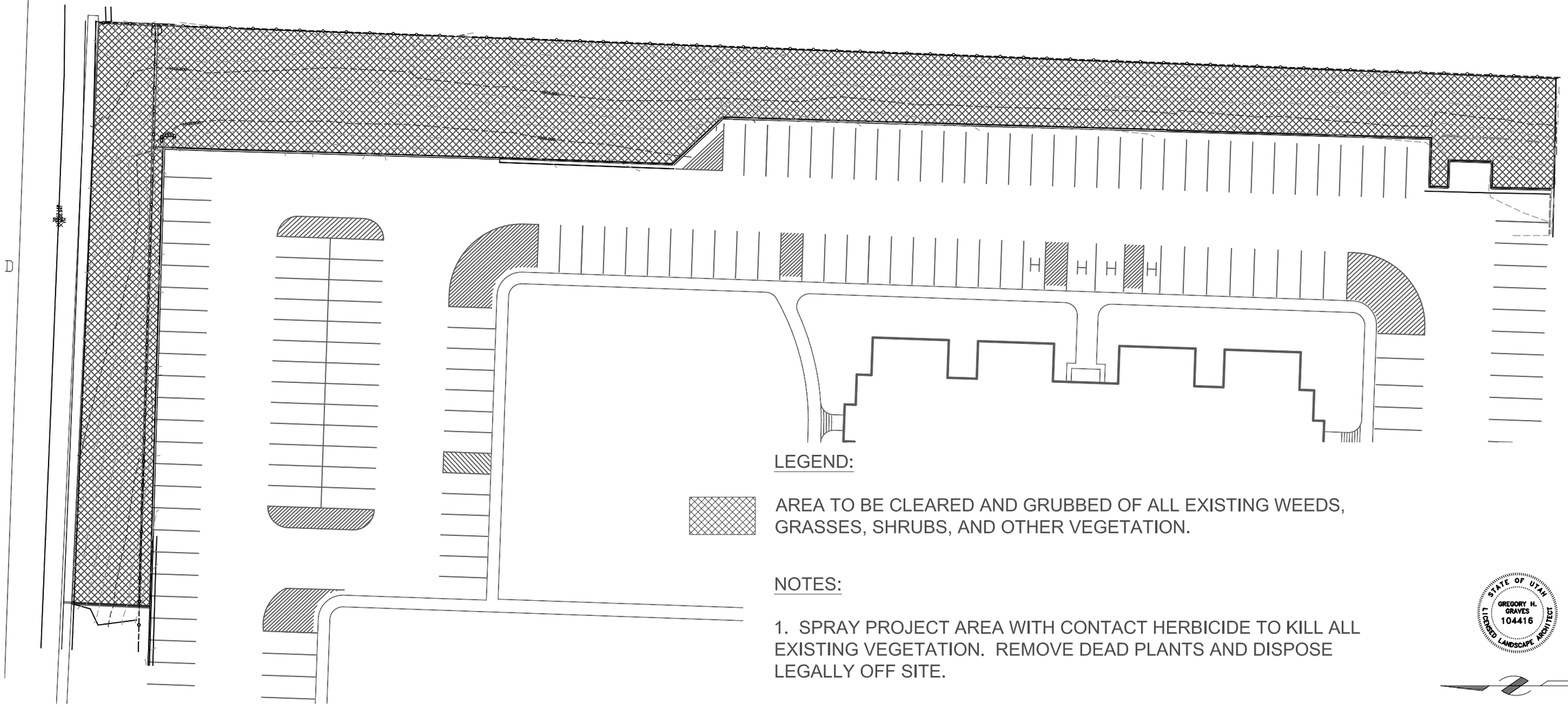
STUDENT HOUSING HILLSIDE RENOVATION



LOCATION MAP

PREPARED BY:
BINGHAM ENGINEERING INC.
5225 WILEY POST WAY SUITE 200
SALT LAKE CITY, UT 84116
(801) 532-2520

PACKAGE INDEX:



LEGEND:

AREA TO BE CLEARED AND GRUBBED OF ALL EXISTING WEEDS, GRASSES, SHRUBS, AND OTHER VEGETATION.

NOTES:

1. SPRAY PROJECT AREA WITH CONTACT HERBICIDE TO KILL ALL EXISTING VEGETATION. REMOVE DEAD PLANTS AND DISPOSE LEGALLY OFF SITE.

STATE OF UTAH
GREGORY H. GRAVES
104416
LICENSED LANDSCAPE ARCHITECT

0 20 40 60
Scale In Feet

Rev.	By	Date	Remarks
0	GHG	3/22/07	ISSUED FOR BID

WEBER STATE UNIVERSITY

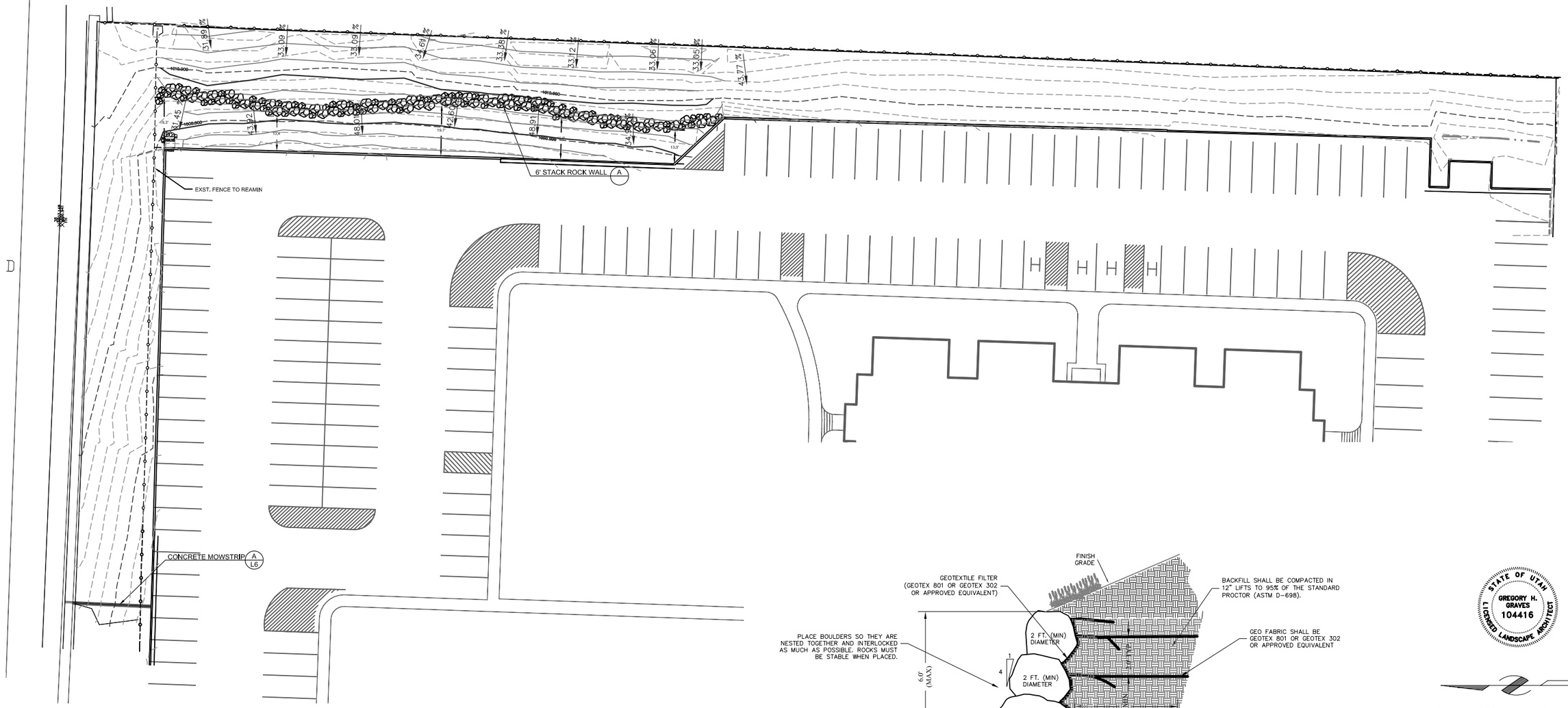
STUDENT HOUSING
HILLSIDE RENOVATION
DEMOLITION
PLAN

BINGHAM ENGINEERING
SALT LAKE CITY • (801) 532-2520
OGDEN • (801) 399-1662

Dsn: CGR
Drw: CGR
Chk: GHG
Rvw: GHG

Sht 1 of 6

Print Date: 03/07/07 | Created: 01/22/07 | Proj. # 4586



LEGEND

EXISTING MAJOR CONTOUR

EXISTING MINOR CONTOUR

PROPOSED MAJOR CONTOUR

PROPOSED MINOR CONTOUR

A 6' STACK ROCK WALL
NTS

STATE OF UTAH
GREGORY H. GRAVES
104416
REGISTERED LANDSCAPE ARCHITECT

0 20 40 60
Scale In Feet

Rev.	By	Date	Remarks
0	GHG	3/22/07	ISSUED FOR BID

WEBER STATE UNIVERSITY

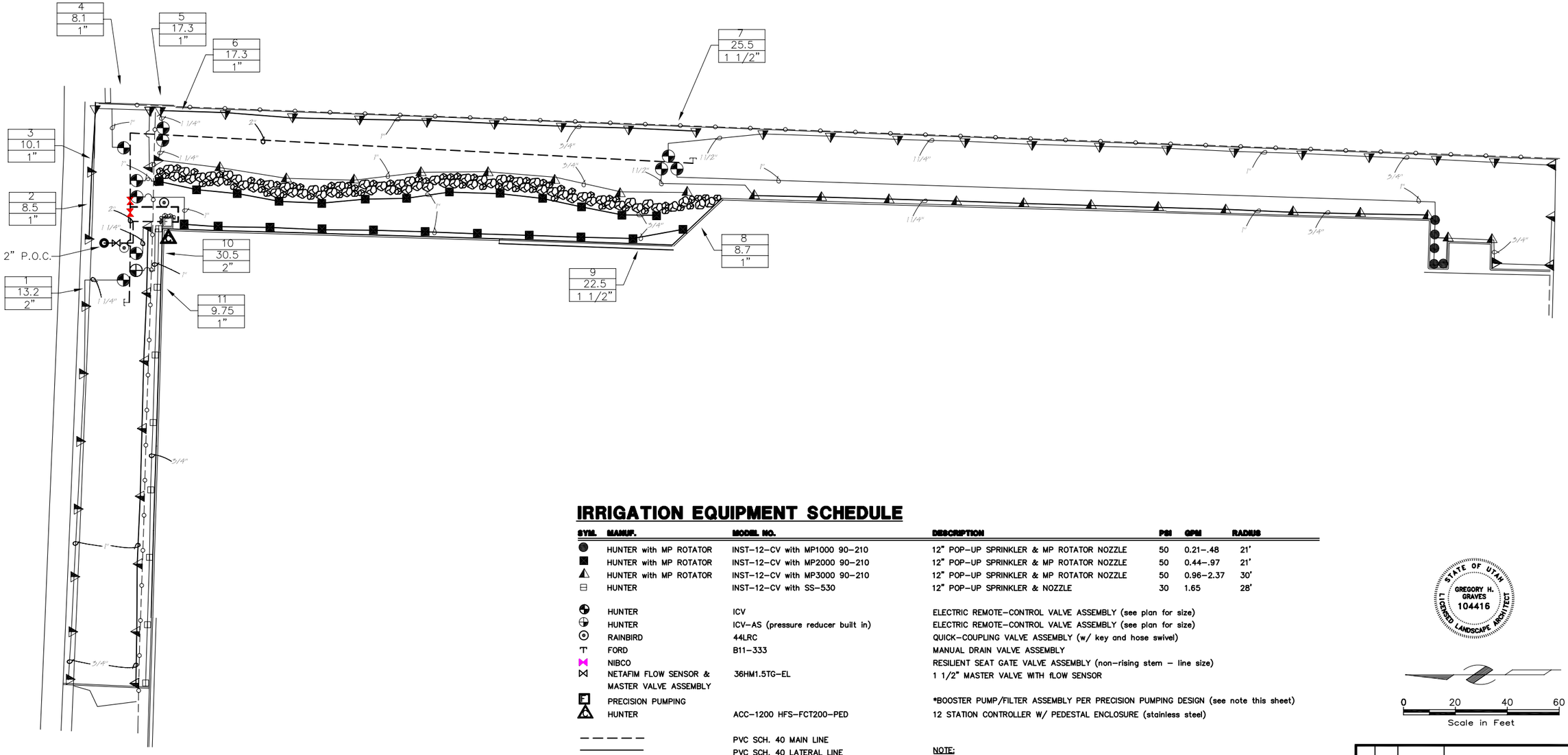
STUDENT HOUSING HILLSIDE RENOVATION GRADING & LAYOUT

BINGHAM ENGINEERING
SALT LAKE CITY - (801) 532-2520
OGDEN - (801) 399-1662

Dsn: CGR
Drw: CGR
Chk: GHG
Rvw: GHG

Sht 2 of 6

Print Date: 03/07/07 | Created: 01/22/07 | Proj. # 4586



IRRIGATION EQUIPMENT SCHEDULE

SYM.	MANUF.	MODEL NO.	DESCRIPTION	PSI	GPM	RADIUS
●	HUNTER with MP ROTATOR	INST-12-CV with MP1000 90-210	12" POP-UP SPRINKLER & MP ROTATOR NOZZLE	50	0.21-.48	21'
■	HUNTER with MP ROTATOR	INST-12-CV with MP2000 90-210	12" POP-UP SPRINKLER & MP ROTATOR NOZZLE	50	0.44-.97	21'
◭	HUNTER with MP ROTATOR	INST-12-CV with MP3000 90-210	12" POP-UP SPRINKLER & MP ROTATOR NOZZLE	50	0.96-2.37	30'
⊟	HUNTER	INST-12-CV with SS-530	12" POP-UP SPRINKLER & NOZZLE	30	1.65	28'
	HUNTER	ICV	ELECTRIC REMOTE-CONTROL VALVE ASSEMBLY (see plan for size)			
	HUNTER	ICV-AS (pressure reducer built in)	ELECTRIC REMOTE-CONTROL VALVE ASSEMBLY (see plan for size)			
	RAINBIRD	44LRC	QUICK-COUPLING VALVE ASSEMBLY (w/ key and hose swivel)			
	FORD	B11-333	MANUAL DRAIN VALVE ASSEMBLY			
	NIBCO		RESILIENT SEAT GATE VALVE ASSEMBLY (non-rising stem - line size)			
	NETAFIM FLOW SENSOR & MASTER VALVE ASSEMBLY	36HM1.5TG-EL	1 1/2" MASTER VALVE WITH FLOW SENSOR			
	PRECISION PUMPING		*BOOSTER PUMP/FILTER ASSEMBLY PER PRECISION PUMPING DESIGN (see note this sheet)			
	HUNTER	ACC-1200 HFS-FCT200-PED	12 STATION CONTROLLER W/ PEDESTAL ENCLOSURE (stainless steel)			
- - - - -		PVC SCH. 40 MAIN LINE				
———		PVC SCH. 40 LATERAL LINE				

NOTE:

*CONTRACTOR SHALL ORDER AND PURCHASE BOOSTER PUMP/FILTER ASSEMBLY FROM THE FOLLOWING SOURCE:

PRECISION PUMPING, 6515 BUSINESS WAY, BOISE, IDAHO 83716, 208.323.5300 (PHONE), 208.323.5311 (FAX), CONTACT PERSON - TOM YOUNG, tom@precision-pumping.com

ALSO NOTE THAT 3 PHASE 220V POWER SHALL BE REQUIRED FOR THE PUMP STATION, AND SINGLE PHASE 110V POWER FOR THE CONTROLLER. CONTRACTOR SHALL COORDINATE WITH WEBER STATE UNIVERSITY ELECTRICAL SHOP AND ROCKY MOUNTAIN POWER TO INSURE THIS IS DONE EFFICIENTLY.

STATE OF UTAH
GREGORY H. GRAVES
104416
LICENSED LANDSCAPE ARCHITECT

0 20 40 60
Scale in Feet

Rev.	By	Date	Remarks
0	GHG	3/22/07	ISSUED FOR BID

WEBER STATE UNIVERSITY

STUDENT HOUSING HILLSIDE RENOVATION IRRIGATION PLAN

BINGHAM ENGINEERING
SALT LAKE CITY - (801) 532-2520
OGDEN - (801) 393-1662

Dsn: CGR
Drw: CGR
Chk: GHG
Rvw: GHG

Sht 3 of 6

Print Date: 03/07/07 | Created: 01/22/07 | Proj. # 4586

IRRIGATION NOTES

1. IRRIGATION PLAN IS DIAGRAMMATIC. ALL IRRIGATION EQUIPMENT SHALL BE LOCATED IN PLANTING AREAS ONLY, UNLESS NOTED OTHERWISE. REFER TO THE IRRIGATION LEGEND, DETAILS, AND SPECIFICATIONS FOR EQUIPMENT AND INSTALLATION. SPECIFICATIONS SHALL TAKE PRECEDENCE OVER INSTALLATION DETAILS.

LANDSCAPE CONTRACTOR SHALL VERIFY LOCATION OF IRRIGATION POINT OF CONNECTION (POC) AND THE STATIC WATER PRESSURE AT THAT LOCATION PRIOR TO BEGINNING ANY IRRIGATION WORK. THIS INFORMATION WILL BE REQUIRED BY THE PUMP MANUFACTURER TO PROPERLY SIZE AND DESIGN THE PUMP/FILTER ASSEMBLY.

3. CONTRACTOR SHALL KEEP THE PREMISES CLEAN AND FREE OF EXCESS EQUIPMENT, MATERIALS AND RUBBISH INCIDENTAL TO WORK OF THIS SECTION.

4. PIPE FITTINGS SHALL BE AS FOLLOWS:
A. ALL RISERS AND EXPOSED FITTINGS SHALL BE P.V.C. SCHEDULE 80.
B. ALL UNDERGROUND FITTINGS SHALL BE P.V.C. SCHEDULE 40.
C. ALL MAINLINE TWO (2) INCH OR SMALLER SHALL USE SOLVENT WELD PVC FITTINGS.

5. IRRIGATION CONTROL WIRES SHALL CONFORM TO THE FOLLOWING:
A. ALL WIRE SHALL BE TYPE UF, 600 VOLT, SOLID COPPER , SINGLE CONDUCTOR WIRE. IT SHALL BE UL LISTED, DIRECT BURIAL TYPE, AND MINIMUM SIZE OF 14 GAUGE. ALL SPLICES AND CONNECTIONS SHALL BE WATER-TIGHT USING 3M DBY DIRECT BURY WIRE SPLICE KITS. ALL WIRES SHALL BE INSTALLED WITH TWO (2) FEET OF EXCESS WIRE (COILED) AT THE END OF EACH WIRE RUN, WIRE SPLICE, AND AT EACH CONTROLLER.
B. CONTROL WIRE SHALL BE BUNDLED EVERY 10' AND PLACED ADJACENT TO MAIN LINE. ALL WIRE SPLICES SHALL BE LOCATED IN SEPARATE 10" ROUND VALVE BOXES.

6. MANUAL DRAIN VALVES SHALL BE PLACED ON THE MAIN LINE AT ALL LOW SPOTS TO ENSURE COMPLETE DRAINAGE AND WINTERIZATION OF MAIN LINE. ALL MANUAL DRAINS SHALL BE PLACE IN SEPARATE VALVE BOXES PER INSTALLATION DETAILS.

7. CHECK VALVES SHALL BE USED WHERE INDICATED AND WHERE NECESSARY TO PREVENT WATER FLOW FROM LOWER ELEVATION HEADS WHEN SYSTEM IS TURNED OFF. INSTALL PER MANUFACTURE'S RECOMMENDATION, WITH A ONE (1) CU. FT. MIN. GRAVEL SUMP AROUND EACH CHECK VALVE.

8. ALL POP-UP SPRAY SPRINKLERS SHALL CONFORM TO THE FOLLOWING UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS:
A. SPRINKLERS LOCATED IN PLANTING BEDS SHALL BE TWELVE (12) INCHES IN HEIGHT.

9. ALL PRESSURE MAIN LINES SHALL HAVE A MINIMUM OF EIGHTEEN (18) INCHES TO THIRTY (30) INCHES OF COVER, AND ALL LATERAL LINES SHALL HAVE EIGHT (8) INCHES TO FOURTEEN (14) INCHES OF COVER. TRENCH BEDDING AND BACKFILL MATERIAL SHALL BE EXISTING SITE SOIL FREE OF ROCKS, DEBRIS, ETC. GREATER THAN ONE (1) INCH IN ANY DIMENSION THAT MAY DAMAGE IRRIGATION PIPE OR EQUIPMENT. IN THE EVENT OF BACKFILL SETTLEMENT, CONTRACTOR SHALL PERFORM REQUIRED REPAIRS AT HIS OWN COST.

10. WHERE POSSIBLE, ALL AUTOMATIC CONTROL VALVES SHALL BE LOCATED AND INSTALLED IN GREEN VALVE BOXES, ONE VALVE PER BOX, WITH FOUR (4) INCHES OF 3/4" GRAVEL BENEATH THE VALVE. NO VALVE MANIFOLDS SHALL BE ALLOWED. ISOLATION GATE VALVES ON MAIN LINES SHALL BE LOCATED IN SEPARATE VALVE BOXES.

11. ALL MAIN LINE AND LATERAL LINES SHALL BE SLEEVED WITH P.V.C. SCHEDULE 40 PIPE (4" AND UNDER) OR CLASS 200 (GREATER THAN 4") WHERE THEY PASS UNDER PAVED AREAS. SLEEVE SIZE SHALL BE TWICE THE DIAMETER OF THE LINE TO BE SLEEVED UNLESS OTHERWISE NOTED ON THE PLANS.

12. PRIOR TO BACKFILLING IRRIGATION TRENCHES:
A. ALL MAIN LINES IN THE SYSTEM SHALL BE CAPPED AND PRESSURE TESTED AT 125 P.S.I. FOR A PERIOD OF FOUR (4) HOURS. ANY LEAKS FOUND SHALL BE CORRECTED BY REMOVING THE LEAKING PIPE OR FITTINGS AND INSTALLING NEW MATERIAL IN ITS PLACE. REPEAT PRESSURE TEST TO ASSURE ABSENCE OF LEAKS.
B. THE CONTRACTOR SHALL NOT ALLOW NOR CAUSE ANY OF HIS WORK TO BE COVERED UNTIL IT HAS BEEN INSPECTED, TESTED AND APPROVED BY THE OWNER/OWNER'S AUTHORIZED REPRESENTATIVE.
C. WHERE MAIN LINE WILL BE ALLOWED TO SIT UNCOVERED FOR ANY LENGTH OF TIME IN THE TRENCH PRIOR TO TESTING, SHADE MAIN LINE WITH A THIN COVERING OF SOIL TO MINIMIZE WEATHER-RELATED EXPANSION OR CONTRACTION OF PIPE.

13. IRRIGATION CONTRACTOR SHALL ADJUST ALL HEADS TO PROVIDE A UNIFORM COVERAGE AND TO KEEP SPRAY OFF PARKING AREAS, AND DRIVES.

14. WHEN THE SPRINKLER SYSTEM IS COMPLETED THE CONTRACTOR SHALL, IN THE PRESENCE OF THE OWNER/OWNER'S AUTHORIZED REPRESENTATIVE, PERFORM A COVERAGE TEST OF WATER PROVIDED TO THE PLANTING AREAS TO ENSURE IT IS CONSISTENT AND UNIFORM. THE CONTRACTOR SHALL FURNISH ALL MATERIALS AND PERFORM ALL WORK REQUIRED TO CORRECT ANY INADEQUACIES OF COVERAGE AT HIS OWN COST.

15. THE CONTRACTOR SHALL FURNISH TO THE OWNER A COMPLETE "AS BUILT" DRAWING ON MYLAR AND TWO PRINTS SHOWING EXACT LOCATIONS OF ALL ITEMS INSTALLED. THESE ARE TO BE DELIVERED ON OR BEFORE FINAL INSPECTION.

16. A REDUCED IRRIGATION PLAN INDICATING ALL SYSTEMS AND THEIR APPROPRIATE SEQUENCED VALVES SHALL BE LAMINATED IN MYLAR AND MOUNTED ON THE INSIDE COVER OF THE IRRIGATION CONTROLLER(S).

17. IRRIGATION CONTRACTOR SHALL MAINTAIN THE SYSTEM FOR THE DURATION OF THE CONTRACT PERIOD.

18. IRRIGATION CONTRACTOR SHALL GUARANTEE THE ENTIRE IRRIGATION SYSTEM TO BE FREE OF DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM FINAL ACCEPTANCE BY THE OWNER.

IRRIGATION MAINTENANCE NOTES

IT IS THE OWNER'S RESPONSIBILITY TO SUPPLY THESE PLANS WITH THE FOLLOWING NOTES AND SPECIFICATIONS, ALONG WITH CONTRACTOR DRAWN "AS BUILT" PLANS TO ANY AND ALL FUTURE OWNERS AND MAINTENANCE COMPANIES.

1. THE PURPOSE OF THIS SPRINKLER SYSTEM IS TO PROVIDE ONLY SUFFICIENT WATER TO MAINTAIN PLANT LIFE DURING DRY WEATHER CONDITIONS OR SUMMER SEASONS. TIME CLOCKS SHALL BE READJUSTED CONTINUOUSLY THROUGHOUT THE SEASON, ON A WEEKLY BASIS IF NECESSARY, TO PROVIDE WATER ONLY WHEN THE SOIL IS DRY AT A DEPTH OF FOUR (4) INCHES THE FIRST INITIAL GROWING SEASON AND SIX (6) INCHES THE FOLLOWING YEARS. IF THE GROUND IS MOIST EITHER AT THE SURFACE OR A DEPTH OF FOUR (4) INCHES DURING THE FIRST YEAR AFTER INITIAL PLANT ESTABLISHMENT, OR IS MOIST AT A DEPTH OF SIX (6) INCHES THEREAFTER, SHUT THE TIME CLOCKS OFF AND DO NOT APPLY ADDITIONAL WATER UNTIL SOIL HAS BEEN ALLOWED TO DRY. READJUST TIME CLOCK PRIOR TO TURNING VALVES BACK ON. IF RAIN IS FORECAST OR IS EMINENT, ALL IRRIGATION SYSTEMS SHALL BE SHUT OFF AND NOT REACTIVATED UNTIL THE SOIL HAS DRIED TO THE ABOVE DEPTHS.

2. IF ANY SUBSURFACE DRAINAGE OR RUN-OFF IS VISIBLE AT LOW AREAS, ACROSS PAVING OR AT LOWER PORTIONS OF SLOPES, IMMEDIATELY SHUT THE VALVES OFF TO ALLOW THE AREA TO COMPLETELY DRY OUT. IF THIS CONDITION CONTINUES AFTER SUBSEQUENT WATERINGS, A QUALIFIED GEOLOGIST OR GEOTECHNICAL ENGINEER MUST BE RETAINED TO PROVIDE RECOMMENDATIONS TO ELIMINATE SUBSURFACE WATER OR DRAINAGE PROBLEMS. IF DURING NORMAL IRRIGATION, PONDING TAKES PLACE ON ANY LANDSCAPE AREA, DRIVES, PARKING AREAS OR ANY OTHER AREA, THE IRRIGATION SYSTEM SHALL BE IMMEDIATELY SHUT OFF AND A LICENSED CIVIL ENGINEER SHALL BE IMMEDIATELY CONTACTED TO PROVIDE RECOMMENDATIONS FOR POSITIVE AND PROPER DRAINAGE.

3. INSPECTIONS OF IRRIGATION SYSTEM SHALL BE MADE ON A DAILY BASIS TO OBSERVE AND PROVIDE REPAIRS OR REMEDIES TO THE FOLLOWING UNACCEPTABLE PROBLEMS:
A. OVER-SPRAY ON SIDEWALKS, STREETS, PAVED AREAS, PARKING AREAS, FENCES, WALLS, BUILDINGS OR STRUCTURES.
B. DRAINAGE OR RUN-OFF ACROSS SIDEWALKS, PAVING OR STREETS.
C. DAMAGED OR IMPROPERLY OPERATING HEADS, PIPING, VALVES, CONTROLLERS OR OTHER IRRIGATION EQUIPMENT.
D. IMPROPERLY ADJUSTED OR OPERATING MOISTURE SENSORS.

4. ONLY LICENSED AND QUALIFIED LANDSCAPE CONTRACTORS AND LANDSCAPE MAINTENANCE INDIVIDUALS SHALL PROVIDE OR MAKE REPAIRS TO IRRIGATION SYSTEM.

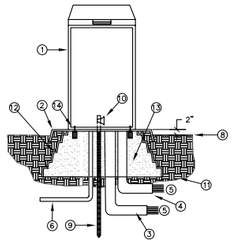
5. AT ALL TIMES, THE LANDSCAPE CONTRACTOR OR MAINTENANCE CONTRACTOR SHALL ASSIGN A QUALIFIED INDIVIDUAL OR INDIVIDUALS TO INSPECT AND MONITOR THE IRRIGATION SYSTEM. OWNERS SHALL BE SUPPLIED WITH 24 HOUR EMERGENCY PHONE NUMBERS FOR USE IN REPORTING BROKEN OR DAMAGED IRRIGATION EQUIPMENT.

6. ALL IRRIGATION EQUIPMENT REQUIRES CONTINUOUS MAINTENANCE, CLEANING, ADJUSTMENT, PARTS REPLACEMENT AND INSPECTION. IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR OR LANDSCAPE MAINTENANCE COMPANY TO PROVIDE THESE SERVICES ON A CONTINUAL AND REGULAR BASIS AND SCHEDULE.

7. WATER SHALL BE APPLIED TO PLANTING AREAS IN SHORT INTERVALS OR MOISTURE SENSORS SHALL BE ADJUSTED TO PROHIBIT ANY SURFACE PONDING OR RUN-OFF, AND AT NO TIME SHALL WATER BE APPLIED TO CAUSE SOIL SATURATION.

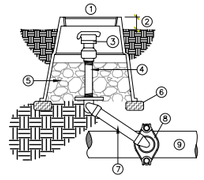
8. OVERWATERING CAN RESULT IN DEATH OF PLANTS, POSSIBLE SOIL EXPANSION AND DAMAGE TO CONCRETE AND ASPHALT PAVING, DAMAGE TO FOUNDATIONS AND POSSIBLE LOSS OF SOIL COMPACTION. A QUALIFIED GEOTECHNICAL ENGINEER SHALL BE RETAINED TO PROVIDE SITE INSPECTIONS AT LEAST ON AN ANNUAL BASIS TO INSPECT FOR EXCESS SOIL MOISTURE.

ENSURING THAT THE ABOVE PRECAUTIONS, REPAIRS AND CONTINUING MAINTENANCE ARE PROPERLY PERFORMED IS THE RESPONSIBILITY OF THE OWNER. THE LANDSCAPE ARCHITECT HAS BEEN RETAINED TO PREPARE THESE PLANS ONLY, AND DOES NOT PROVIDE POST CONSTRUCTION REVIEWS NOR REVIEWS OF ON-SITE MAINTENANCE. THE LANDSCAPE ARCHITECT DOES NOT ASSUME RESPONSIBILITY NOR LIABILITY OF MAINTENANCE OR REVIEW OF MAINTENANCE WORK OR REPAIRS OR DAMAGES RESULTING FROM LACK OF REPAIRS, MAINTENANCE, ADJUSTMENTS OR IMPROPER INSTALLATION OF IRRIGATION EQUIPMENT.



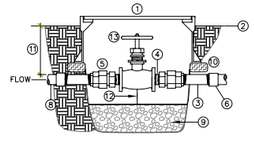
1. CONTROLLER AND CONTROLLER ENCLOSURE – SEE IRRIGATION EQUIPMENT SCHEDULE
2. QUICKPAD 3/16" MIN. THICKNESS ALUMINUM POWDER COATED PREFORMED PAD
3. PVC SWEEP ELL STATIONS 1-24
4. PVC SWEEP ELL STATIONS 25-40 (IF APPLICABLE)
5. DIRECT BURIAL CONTROL WIRES TO CONTROL VALVES
6. 110-VOLT SERVICE IN CONDUIT
7. NOT USED
8. FINISH GRADE
9. 5/8" X 8' COPPER GROUND ROD
10. BRONZE GROUND CLAMP
11. SUBGRADE COMPACTED TO 90%
12. PREFORMED PAD SUPPORT BASE
13. FILL INSIDE BASE WITH PEA GRAVEL
14. QUICKPAD FASTENING BRACKET (2)

A CONTROLLER & ENCLOSURE
NTS



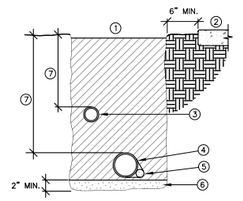
1. 10" ROUND GREEN PLASTIC VALVE BOX, CARSON-BROOKS 910 OR EQUAL
2. HEIGHT ABOVE FINISH GRADE: 1 1/2" IN TURF AREAS (SODDED); 1" IN TURF AREAS (SEEDED); 2" IN PLANTING AREAS
3. QUICK COUPLER VALVE – SEE EQUIPMENT SCHEDULE
4. BRASS NIPPLE, LENGTH AS REQUIRED
5. 6" MIN. DEPTH CLEAN PEA GRAVEL
6. REDWOOD OR BRICK BLOCKING, TYPICAL
7. 12" LASCO UNITIZED SWING JOINT W/ BRASS INSERT STABILIZER ELBOW OR 12" SPEARS SWING JOINT RISER ASSEMBLY W/ BRASS FEMALE THREAD 90° ELL OUTLET
8. DUCTILE IRON SERVICE SADDLE W/ S.S. STRAP (SIDE MOUNTED, SIZE AS REQUIRED)
9. PVC MAIN LINE

B QUICK COUPLING VALVE
NTS



1. 10" ROUND PLASTIC VALVE BOX, W/ LOCK BOLT, CARSON-BROOKS 910 OR EQUAL, MARKED "G.V." WITH 2" WHITE LETTERS
2. FINISH GRADE
3. METAL NIPPLE, 12" MIN. LENGTH, PER BELOW: 1" – 1 1/4" DIA. = GALVANIZED STEEL NIPPLE 1 1/2" – 3" DIA. = DUCTILE IRON NIPPLE
4. 2" NIPPLE, DIA. AS REQUIRED
5. BRASS UNION (TYP.)
6. PVC SCH. 80 FEMALE ADAPTER (TYP.)
7. BELL x FLANGE METAL ADAPTER (TYP.)
8. PVC MAINLINE
9. 4" MIN. DEPTH CLEAN PEA GRAVEL
10. 2"x4" REDWOOD OR BRICK BLOCKING (TYP.)
11. DEPTH – SEE NOTES
12. 2" MINIMUM CLEARANCE REQUIRED
13. GATE VALVE (LINE SIZE) – SEE EQUIPMENT SCHEDULE

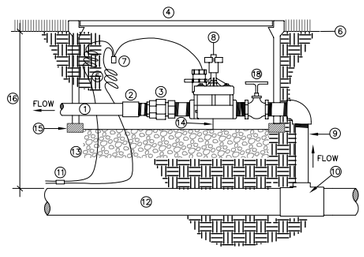
C ISOLATION GATE VALVE
NTS



1. BACKFILL MATERIAL – SEE NOTES, COMPACT TO 90% MIN.
2. ADJACENT HARD SURFACE
3. NON-PRESSURE LATERAL LINE
4. PRESSURE MAIN LINE
5. DIRECT BURIAL LOW VOLTAGE CONTROL WIRES; TAPE AND BUNDLE AT 10 FT. O.C.
6. BEDDING MATERIAL – SEE NOTES
7. PIPE DEPTHS – SEE NOTES

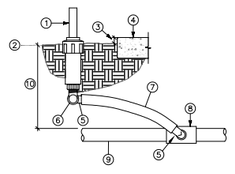
NOTE: SEE SLEEVING DETAIL FOR TRENCHING IN PAVED AREAS.

D TRENCH DETAIL
NTS



1. LATERAL LINE
2. PVC SCH. 80 FEMALE ADAPTER
3. PVC SCH. 80 UNION
4. GREEN PLASTIC VALVE BOX W/ BOLT LOCK (CARSON-BROOKS OR APPROVED EQUAL), SIZE AS REQUIRED
5. PROVIDE 12" EXPANSION LOOP AT EACH WIRE CONNECTOR IN BOX
6. FINISH GRADE
7. WATER TIGHT WIRE CONNECTORS (TYP.)
8. ELECTRIC CONTROL VALVE – SEE IRRIGATION EQUIPMENT SCHEDULE
9. SCH. 80 PVC NIPPLE, LENGTH AS REQUIRED
10. SCH. 40 PVC TEE
11. WIRES TO CONTROLLER, TAPE AND BUNDLE EVERY 10' – SEE TRENCH DETAIL
12. PVC MAIN LINE
13. 4" MIN. DEPTH PEA GRAVEL
14. 2" MIN. CLEARANCE REQUIRED
15. 2"x4" REDWOOD OR BRICK BLOCKING (TYP.)
16. DEPTH – SEE NOTES
17. GATE VALVE (LINE SIZE)

E CONTROL VALVE ASSEMBLY
NTS



1. POP-UP SPRAY HEAD – SEE LEGEND
2. FINISH GRADE
3. 1" – 1 1/2"
4. NOTE: ALL SPRAY HEADS TO BE PLACED 2" CLEAR OF ALL HARDSCAPE SURFACES
5. SWING PIPE ELL WITH SPIRAL BARB FITTING (TYP.)
6. MARLEX STREET ELL
7. FLEXIBLE SWING PIPE, 12" MIN. LENGTH
8. PVC SCH 40 SxSxT TEE (OR ELL)
9. PVC LATERAL LINE, SIZE AS NOTED ON PLAN
10. DEPTH – SEE NOTES & TRENCH DETAIL

F 4" POP-UP SPRAY SPRINKLER
NTS

STATE OF UTAH
GREGORY H. GRAVES
104416
LICENSED LANDSCAPE ARCHITECT

Rev.	By	Date	Remarks
0	GHG	3/22/07	ISSUED FOR BID

WEBER STATE UNIVERSITY

STUDENT HOUSING
HILLSIDE RENOVATION
IRRIGATION
DETAILS

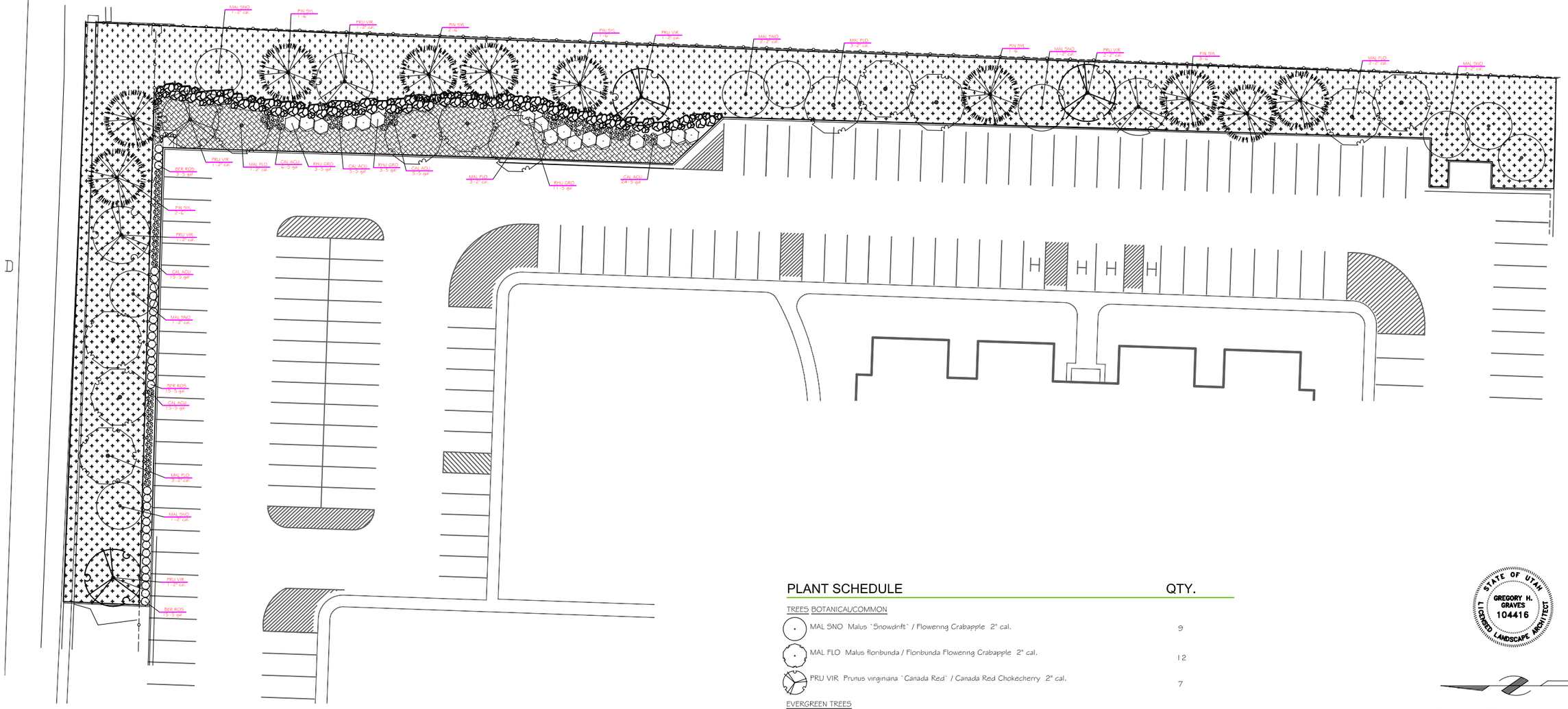
BINGHAM ENGINEERING
SALT LAKE CITY - (801) 532-2520
OGDEN - (801) 399-1662

Dsn: CGR
Drw: CGR
Chk: GHG
Rvw: GHG

Sht 4 of 6

Print Date: 03/07/07 | Created: 01/22/07 | Proj. # 4586

NOTES:



PLANT SCHEDULE

	QTY.
TREES BOTANICAL/COMMON	
MAL SNO Malus `Snowdrift` / Flowering Crabapple 2" cal.	9
MAL FLO Malus floribunda / Floribunda Flowering Crabapple 2" cal.	12
PRU VIR Prunus virginiana `Canada Red` / Canada Red Chokecherry 2" cal.	7
EVERGREEN TREES	
PIN SYL Pinus sylvestris / Scotch Pine 6`	10
SHRUBS	
BER ROS Berberis thunbergii `Rose Glow` / Rosy Glow Barberry 5 gal	33
RHU GRO Rhus aromatica `Gro-Low` / Gro-Low Fragrant Sumac 5 gal	17
GRASSES	
CAL ACU Calamagrostis acutifolia `Karl Foerster` / Foerster`s Reed Grass 5 gal	70
PERENNIALS	
Fragaria 'Vesca' (+/-2,455 s.f.) FI36 Perennial to be planted 12" o.c.	69
SLOPE SAVER SEED	
Slope Saver from Agronotec (+/-20,542 s.f.) Hydroseed Seed at 8 lbs per 1,000 sf	
MOWSTRIP	

After proper cleaning, installation of irrigation system, prep soil and irrigate. Allow weed seeds to sprout and grow to 2" height. Spray again using contact herbicide to kill all vegetation. Remove dead plants and begin planting operations. Seed with Slope Saver, watering daily until established. Seed should be kept moist, not wet. Fertilize with 21-7-14 fertilizer 10-14 days after planting.

STATE OF UTAH
GREGORY H. GRAVES
104416
LICENSED LANDSCAPE ARCHITECT

0 20 40 60
Scale In Feet

Rev.	By	Date	Remarks
0	GHG	3/22/07	ISSUED FOR BID

WEBER STATE UNIVERSITY

STUDENT HOUSING HILLSIDE RENOVATION PLANTING PLAN

BINGHAM ENGINEERING
SALT LAKE CITY - (801) 532-2520
OGDEN - (801) 399-1662

Dsn: CGR
Drw: CGR
Chk: GHG
Rvw: GHG

Sht 5 of 6

Print Date: 03/07/07 | Created: 01/22/07 | Proj. # 4586

PLANTING NOTES

1. THE PLANTING PLAN IS DIAGRAMMATIC, AND ALL PLANT LOCATIONS ARE APPROXIMATE.
A. PLANT SYMBOLS TAKE PRECEDENCE OVER PLANT QUANTITIES SPECIFIED ON PLANS.
B. CONTRACTOR SHALL VERIFY PLANT QUANTITIES AND NOTIFY THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES BETWEEN QUANTITIES AND SYMBOLS SHOWN.

2. PRIOR TO PLANTING, THE IRRIGATION SYSTEM SHALL BE FULLY OPERATIONAL AND ALL PLANTING AREAS SHALL BE THOROUGHLY MOISTENED.

3. LANDSCAPE CONTRACTOR SHALL APPLY A CONTACT HERBICIDE TO ALL PLANTING AREAS WHERE WEEDS OR UNDESIRABLE VEGETATION ARE PRESENT PER MANUFACTURERS SPECIFICATIONS A MINIMUM OF TEN (10) DAYS PRIOR TO COMMENCEMENT OF ANY PLANTING OR IRRIGATION WORK. WEEDS SHALL BE ALLOWED TO COMPLETELY DIE BACK, INCLUDING THE ROOTS, BEFORE PROCEEDING WITH WORK. DEAD WEEDS SHALL BE REMOVED FROM THE SITE. REPEAT PROCESS A SECOND TIME.

4. ALL FINISHED GRADES SHALL BE APPROVED BY THE OWNER/OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION OF ANY PLANT MATERIALS.

5. HYDROSEED SHALL CONFORM TO THE FOLLOWING:
A. WOOD FIBER MULCH SHALL BE VIRGIN WOOD FIBER, FREE OF GROWTH OR GERMINATION INHIBITING SUBSTANCES. MULCH SHALL BE AIR DRIED WITH NO MORE THAN 15% MOISTURE BY WEIGHT. TOTAL ORGANIC WEIGHT SHALL BE A MINIMUM OF 98%. INORGANIC ASH CONTENT SHALL BE 0.7+/−0.2 PERCENT. WATER HOLDING CAPACITY SHALL BE 1000G/100G (OVEN DRIED WEIGHT BASIS). PH RANGE SHALL BE 4.0−6.0. FIBER LENGTH SHALL MEET THE FOLLOWING:
   i. 30% MINIMUM SHALL BE AT LEAST 0.15 INCHES IN LENGTH OR LONGER
   ii. 50% MINIMUM SHALL BE RETAINED ON THE 28 MESH SCREEN.
B. SEE PLANT SCHEDULE FOR SEED MIX.
C. PROVIDE WRITTEN CERTIFICATION THAT SEED CONFORMS TO UTAH SEED LAW IN COMPLIANCE WITH UTAH STATE DEPT. OF AGRICULTURE REGULATIONS.
D. ORGANIC TACKIFIER SHALL BE "M−BINDER" AS MANUFACTURED BY ECOLOGY CONTROLS, "TYPE−M" AS MANUFACTURED BY AGRO TACK, "STA WET" AS MANUFACTURED BY POLYSORB, INC. OR APPROVED EQUAL.
E. APPLICATION RATE PER 1000 SQUARE FEET IS AS FOLLOWS:
   1. 35 POUNDS OF WOOD FIBER MULCH.
   2. SEE PLANT LIST FOR POUNDS OF SEED MIX PER 1000 SQUARE FEET
   3. 2.5 GALLONS OF ORGANIC TACKIFIER.
   4. 92 GALLONS OF WATER (MINIMUM).
F. THE WOOD FIBER MULCH, SEED, TACKIFIER AND WATER SHALL BE MIXED TOGETHER IN A HYDRO SEEDING MACHINE HAVING A CAPACITY OF AT LEAST 2,000 GALLONS TO ALLOW FOR A HOMOGENEOUS SLURRY WHICH IS THOROUGHLY MIXED AND CAN BE APPLIED EASILY WITHOUT CLOGGING. THE MACHINE SHALL BE MOUNTED ON A TRAVELING UNIT WHICH IS EITHER SELF−PROPELLED OR DRAWN BY A SEPARATE UNIT. EQUIPMENT USED IN THE HYDRO SEEDING PROCESS WILL BE THOROUGHLY CLEANED OF ALL SEED AND OTHER MATERIALS USED IN ANY PREVIOUS HYDRO SEEDING PROCESS, PRIOR TO HYDRO SEEDING ON THIS PROJECT.
G. THE EQUIPMENT SHALL HAVE A BUILT−IN AGITATION SYSTEM AND OPERATING CAPACITY SUFFICIENT TO AGITATE, SUSPEND AND HOMOGENEOUSLY MIX A SLURRY CONTAINING NOT LESS THAN 44 LBS. OF ORGANIC MULCHING AMENDMENT PLUS CHEMICAL ADDITIVES AND SOLIDS FOR EACH 100 GALLONS OF WATER.
H. THE SLURRY SHALL BE PREPARED AT THE SITE AND ITS COMPONENTS SHALL BE MIXED TO SUPPLY THE RATES OF APPLICATION AS SPECIFIED. SLURRY PREPARATION SHALL BEGIN BY ADDING WATER TO THE TANK WHEN THE ENGINE IS AT ½ THROTTLE. THE ENGINE THROTTLE SHALL BE OPEN TO FULL SPEED WHEN THE TANK IS ½ FILLED WITH WATER. ALL ORGANIC AMENDMENTS, FIBER AND CHEMICALS SHALL THEN BE ADDED BY THE TIME THE TANK IS 2/3 TO 3/4 FULL. AT THIS TIME, SEED MIX SHALL ALSO BE ADDED AND NOT BEFORE THIS TIME. SPRAYING SHALL COMMENCE IMMEDIATELY WHEN THE TANK IS FULL AND THE SLURRY IS MIXED.
I. APPLY HYDROSEED TO FORM EVEN APPEARING COVER OVER REQUIRED AREAS. THE SLURRY SHALL BE APPLIED IN A DOWNWARD DRILLING MOTION VIA A FAN STREAM NOZZLE. IT IS IMPORTANT TO ENSURE THAT ALL OF THE COMPONENTS ENTER AND MIX WITH THE SOIL. USE ONLY QUALIFIED AND TRAINED PERSONNEL TO ENSURE UNIFORMITY OF THE HYDROSEED APPLICATION.
J. THE HYDRO SEEDING SLURRY COMPONENTS SHALL NOT BE LEFT IN THE HYDROSEED MACHINE FOR MORE THAN 2 HOURS IN ORDER TO AVOID SEED DETERIORATION.

6. CONTRACTOR SHALL HAVE THE LANDSCAPE ARCHITECT APPROVE PLANT MATERIAL SIZE AND QUALITY PRIOR TO INSTALLATION. ANY PLANTS WHICH ARE NOT TRUE TO FORM, APPEAR STRESSED OR UNHEALTHY, INFESTED WITH PESTS, OR UNDERSIZED FOR THEIR CONTAINERS SHALL BE REJECTED.

7. PLANT MATERIAL SHALL NOT BE ROOT BOUND. FIVE (5) GALLON PLANTS AND LARGER SHALL HAVE BEEN GROWN IN CONTAINERS FOR A MINIMUM OF SIX (6) MONTHS UP TO A MAXIMUM OF TWO (2) YEARS. PLANTS SHALL EXHIBIT HEALTHY GROWTH AND BE FREE OF DISEASES AND PESTS.

8. CONTRACTOR SHALL SPOT THE LOCATIONS OF ALL PLANTS FOR APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

9. PLANTS SHALL NOT BE PLACED WITHIN TWELVE (12) INCHES OF SPRINKLER HEADS.

10. PLANT BACKFILL MIX SHALL BE 100% NATIVE SOIL UNLESS OTHERWISE SPECIFIED.

11. PLANTING PROCEDURES FOR ALL PLANT MATERIALS, ESPECIALLY TREES, SHALL BE AS FOLLOWS:
A. DIG PLANTING HOLE TWO (2) TIMES THE WIDTH OF THE ROOT BALL, AND ONE TO TWO (1−2) INCHES SHALLOWER THAN THE ROOT BALL DEPTH. SIDES OF HOLE SHOULD BE ROUGHENED AND NOT SMOOTH OR SCULPTED. FOR CONTAINER PLANTS, REMOVE CONTAINER AND PLACE ROOT BALL IN CENTER OF HOLE, WITH ROOT BALL RESTING ON UNDISTURBED SOIL. ROOT CROWN OR COLLAR SHALL BE AT OR JUST ABOVE FINISHED GRADE.
B. FOR BALLED AND BURLAPPED PLANTS, PLACE ROOT BALL IN CENTER OF HOLE AND RESTING ON UNDISTURBED GROUND. CUT AND REMOVE WIRE BASKET AND BURLAP OR OTHER WRAPPING MATERIAL FROM ROOT BALL. THIS MAY BE DONE WITH ROOT BALL IN HOLE. BURLAP OR WIRE PIECES UNDERNEATH THE ROOT BALL MAY BE LEFT IF THEY CANNOT BE REMOVED. DO NOT FOLD BURLAP OVER, BUT CUT AWAY AS MUCH AS POSSIBLE WITHOUT DISTURBING ROOT BALL. BACKFILL BOTTOM THIRD (1/3) OF HOLE AS WIRE AND BURLAP ARE REMOVED.
C. BACKFILL WITH SPECIFIED SOIL MIX, FILLING HOLE TO TWO THIRDS (2/3) CAPACITY. THOROUGHLY WATER PLANT, THEN COMPLETE BACKFILLING THE HOLE. FORM A WATERING BASIN AROUND THE PLANT AND THOROUGHLY WATER AGAIN. MONITOR ALL PLANTS TO INSURE THAT NO SETTLING OCCURS.

12. AFTER PLANTING, THE FOLLOWING OPERATIONS SHALL BE PERFORMED:
A. STAKE ALL TREES PER INSTALLATION DETAILS.
B. REMOVE NURSERY STAKES AND TIES FROM ALL CONTAINER STOCK. MAINTAIN SIDE GROWTH ON ALL TREES. PRUNE AND REMOVE ANY DEAD, DAMAGED OR BROKEN BRANCHES.

13. THE LANDSCAPE CONTRACTOR SHALL LEAVE SITE IN A CLEAN CONDITION, REMOVING ALL UNUSED MATERIAL, TRASH AND TOOLS.

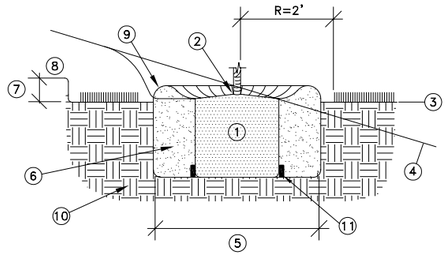
14. AT COMPLETION OF ALL WORK OUTLINED IN THESE PLANS, THE LANDSCAPE CONTRACTOR SHALL CONTACT OWNER AND ARRANGE FOR A WALK THROUGH TO VERIFY THAT ALL ASPECTS OF WORK HAVE BEEN COMPLETED. WORK MUST BE FULLY COMPLETED ACCORDING TO ALL PLANS, NOTES, AND SPECIFICATIONS AND EXHIBIT PROFESSIONAL WORKMANSHIP. A MAINTENANCE PERIOD WILL BEGIN ON THE DATE OF ACCEPTANCE BY OWNER.

15. LANDSCAPE CONTRACTOR SHALL MAINTAIN ALL PLANTINGS FOR A MINIMUM PERIOD OF NINETY (90) DAYS. THE MAINTENANCE WORK REQUIRED SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
A. DAILY WATERING OF ALL PLANT MATERIAL.
B. WEEDING AND REMOVAL OF ALL WEEDS FROM GROUND COVER AND PLANTING AREAS.
C. REPLACEMENT OF ANY DEAD, DYING, OR DAMAGED TREES, SHRUBS OR GROUNDCOVER.
D. FILLING AND REPLANTING OF ANY LOW AREAS WHICH MAY CAUSE STANDING WATER.
E. ADJUSTING OF SPRINKLER HEAD HEIGHTS AND WATERING PATTERNS.
F. FILLING AND RECOMPACTION OF ERODED AREAS, ALONG WITH ANY REQUIRED RE−SEEDING AND/OR RE−PLANTING.
G. WEEKLY REMOVAL OF ALL TRASH, LITTER, CLIPPINGS AND ALL FOREIGN DEBRIS.
H. AT 10−14 DAYS AFTER PLANTING, A 21−7−14 FERTILIZER SHALL BE APPLIED TO GRASS AREAS AT A RATE OF THREE POUNDS PER 1000 SQUARE FEET (PER MANUFACTURER'S RECOMMENDATIONS).
I. AT THIRTY (30) DAYS AFTER PLANTING APPLY 20−6−10 FERTILIZER TO GRASS AREAS AT A RATE OF THREE TO FOUR POUNDS OF PER 1000 SQUARE FEET (PER MANUFACTURER'S RECOMMENDATIONS).

16. PRIOR TO END OF MAINTENANCE PERIOD, LANDSCAPE CONTRACTOR SHALL CONTACT OWNER AND ARRANGE FOR A FINAL WALK THROUGH BEFORE FINAL ACCEPTANCE. OWNER MUST ACCEPT ALL MAINTAINED AREAS IN WRITING PRIOR TO END OF MAINTENANCE PERIOD.

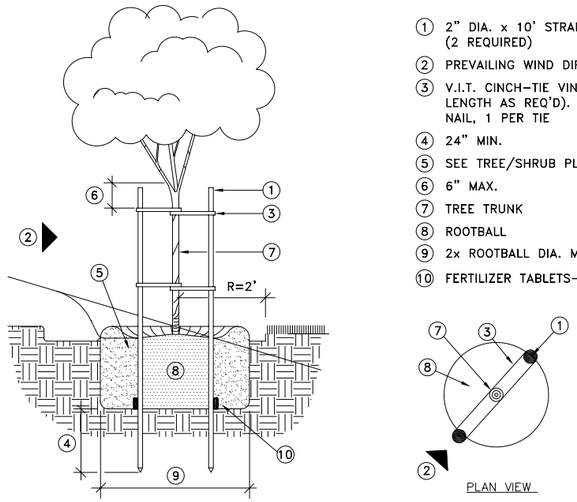
17. LANDSCAPE CONTRACTOR SHALL GUARANTEE PLANT MATERIALS AS FOLLOWS:
A. ALL SHRUBS AND GROUND COVERS SHALL BE GUARANTEED BY THE CONTRACTOR AS TO GROWTH AND HEALTH FOR A PERIOD OF SIXTY (60) DAYS AFTER COMPLETION OF THE MAINTENANCE PERIOD AND FINAL ACCEPTANCE. ALL TREES SHALL BE GUARANTEED BY THE CONTRACTOR TO LIVE AND GROW IN AN ACCEPTABLE UPRIGHT POSITION FOR A PERIOD OF ONE (1) YEAR AFTER COMPLETION OF THE SPECIFIED MAINTENANCE PERIOD AND FINAL ACCEPTANCE.
B. THE CONTRACTOR , WITHIN FIFTEEN (15) DAYS AFTER RECEIVING WRITTEN NOTIFICATION BY THE ARCHITECT, SHALL REMOVE AND REPLACE ALL GUARANTEED PLANT MATERIALS WHICH FOR ANY REASON FAIL TO MEET THE REQUIREMENTS OF THE GUARANTEE. REPLACEMENT SHALL BE MADE WITH PLANT MATERIALS AS INDICATED OR SPECIFIED ON THE ORIGINAL PLANS, AND ALL SUCH REPLACEMENT MATERIALS SHALL BE GUARANTEED AS SPECIFIED FOR THE ORIGINAL MATERIALS.

18. AGRIFORM FERTILIZER TABLETS (21 GRAM) OR PRE−APPROVED EQUAL SHALL BE ADDED TO EACH PLANT AT THE TIME OF ITS INSTALLATION BY PLACING THE TABLET ON THE BOTTOM OF THE PLANTING PIT (UPHILL SIDE) PRIOR TO INSTALLING THE PLANT. THE NUMBER OF PLANTS USED SHALL BE: 1 GAL= 1 TABLET; 5 GAL= 2 TABLETS; 2" CAL.= 5 TABLETS.



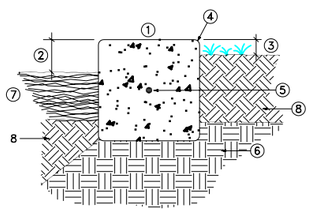
1. ROOTBALL
2. CROWN − 6" ABOVE FINISH GRADE
3. FINISH GRADE
4. FINISH GRADE AT SLOPE (WHERE OCCURS)
5. 2x ROOTBALL DIA. MIN.
6. BACKFILL MIX (SEE NOTES)
7. 2"
8. TOP OF PAVING
9. 3" HIGH WATERING BASIN
10. UNDISTURBED OR 90% COMPACTED SOIL
11. FERTILIZER TABLETS SEE NOTE #24

B TREE/SHRUB PLANTING DETAIL
NTS



1. 2" DIA. x 10' STRAIGHT WOODEN STAKE (2 REQUIRED)
2. PREVAILING WIND DIRECTION
3. V.I.T. CINCH−TIE VINYL TREE TIE (2 PER STAKE, LENGTH AS REQ'D). SECURE TO STAKE W/GALV. NAIL, 1 PER TIE
4. 24" MIN.
5. SEE TREE/SHRUB PLANTING DETAIL
6. 6" MAX.
7. TREE TRUNK
8. ROOTBALL
9. 2x ROOTBALL DIA. MIN.
10. FERTILIZER TABLETS−SEE NOTES

C DOUBLE TREE STAKING
NTS



1. 6 INCH SQUARE CONCRETE MOW STRIP (MIN 2500 PSI AT 28 DAYS)
2. FINISH GRADE AT 2" FOR GROUNDCOVER AREAS
3. FINISH GRADE FOR LAWN AREAS: 1" FOR SEED; 1 1/2" FOR SOD
4. 1/2" RADIUS TROWELED EDGES (TYP.)
5. #3 REBAR CONT. (LAP 12" AT SPLICES)
6. UNDISTURBED OR 90% COMPACTED SUBGRADE
7. 3" LAYER SHREDDED BARK MULCH IN PLANTER BEDS
8. TOPSOIL − 4" IN TURF, 12" IN PLANTING BEDS

NOTE: PROVIDE CONSTRUCTION OR CONTROL JOINTS AT 5' O.C. MAX. AND EXPANSION JOINTS WHERE MOWSTRIP ABUTS ANY MASONRY TYPE IMPROVEMENT.

A CONCRETE MOWSTRIP
NTS

STATE OF UTAH
GREGORY H. GRAVES
104416
LICENSED LANDSCAPE ARCHITECT

Rev.	By	Date	Remarks
0	GHG	3/22/07	ISSUED FOR BID

WEBER STATE UNIVERSITY

STUDENT HOUSING HILLSIDE RENOVATION PLANTING DETAILS & NOTES

BINGHAM ENGINEERING
SALT LAKE CITY - (801) 532-2520
OGDEN - (801) 399-1662

Dsn: CGR
Drw: CGR
Chk: GHG
Rvw: GHG

Sht 6 of 6

Print Date: 03/07/07 | Created: 1/22/07 | Proj. # 4586